

BIBLIOGRAPHY

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ABSTRACT

The study was conducted to assess the indigenous farming practices of rice farmers in Barangay Poitan, Banaue, Ifugao. Specifically to determine the socio-economic profile of the respondents, the indigenous practices of the rice farmers, and their problems encountered in rice production. A survey questionnaire was used in collecting the data but personal interview was also done to clarify some responses. Fifty rice farmers served as respondents of the study.

The profile of the respondents showed that most of them belonged to the 51 to 60 years old age bracket. Most of them were female and very few were single. Most of them had no formal schooling, had 6 to 10 children and were into farming for 16 to 20 years. Majority were Roman Catholics while a few are still pagan. Their other sources of income were woodcarving and weaving. Majority owned the land they are farming and cultivated 11 to 15 rice paddies.

All the respondents plant the native rice varieties and follow all the indigenous practices of field preparation such as the lamun, lobah, balangui, balin, batngay, hapna, and mamanong. All the farm activities from land preparation to harvesting are done by purely manual labor, except for land preparation where few use micro tiller rented from their organization. The farm implements they used are locally manufactured.

While all the farmers are still following the “muntonah”, not all of them are practicing the rituals required before or after a farming activity. Some of the farmers are still holding on to the

beliefs of the old folks. All the respondents butcher animals during harvest and served them to the harvesters, however, not all of them serve wine during harvest.

The problems identified were on weed control and pest and disease control. The farmers however did not use any chemical for weed control and even for pest and diseases control.

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INTRODUCTION

Rationale

Rice belongs to the Gramineae grass family. It is known as a riz in France, arroz in Spain, riso in Italy and riers in Germany. It is a vital food crop because half of the world's population eats rice as a main part of their diets. Rice ranks second only to wheat in terms of area harvested. It provides more calories per hectare than any other cereal grains. Most people who depend heavily on rice live in Asia. Asian farmers grow about 90% of the world's rice supply. Rice grows during the wet season that starts in June or July. It grows best in warm places with plentiful moisture from rainfall or irrigation, and is most frequently grown in valleys and river deltas (Jones, Undated).

Banaue is famous for its rice terraces and its rich cultural heritage. However, its agricultural productivity, especially rice production, remains dismally low. Despite this, rice remains the dominant crop in the area. The traditional variety, called "tinawon" in the local dialect is the only variety grown in the area and is grown only once a year because it takes 6-7 months to mature. It is characterized with low tillering, awned grains and tall stalk (CECAP and Philrice, 2000).

Rice farming is the main source of livelihood and income in Banaue, aside from wood carving. Farmers are trying to increase the yields using their indigenous cultural practices in farming and also in preserving soil fertility. After harvest, the farmers leave the land to fallow and at the same time farmers do other off-farm activities to meet their household consumption.

Dumaligan as cited by Banao (2005) stated that farmers follow a certain system with their farming even with pressing problems such as natural calamities like flood,



typhoon, and drought. Prevalence of insect pests and diseases are also problems of these farmers which should be looked into by concerned agricultural agencies. Farmers should change the traditional farming system they practice.

Statement of the Problem

The study was conducted in order to look into the sustainability of the indigenous practices of rice farmers. It answered the following questions:

1. What are the socio-economic profile of the respondents?
2. What are the indigenous practices of rice farmers in Poitan, Banaue, Ifugao?
3. What are the common problems encountered by farmers in rice production?

Objectives of the Study

This study mainly attempted to do the following:

1. To determine the socio-economic profile of the respondents;
2. To identify the indigenous practices of rice farmers; and
3. To determine the common problems encountered by the rice farmers.

Importance of the Study

The study would be a source of information regarding the traditional practices of rice production.

The result of the study would serve as a reference material on indigenous rice production practices and it would guide the individual to sustain these indigenous practices so that the tradition would be preserved.



Scope and Delimitation of the Study

The study was conducted in Barangay Poitan, Banaue, Ifugao. It tried to document the indigenous practices of rice farmers in the place. The respondents were the farmers engaged in rice production.



REVIEW OF LITERATURE

Problems in Rice Production

Awat (1995) as cited by Banao (2005) mentioned that rice production in the Philippines has a bright future with an increase of knowledge in instruction. People cannot overlook the importance of rice as a valuable food source. However, farmers should be encouraged to produce more and minimize the importation of rice. Cultural management practices must be considered one of the management practices in fertilizer application. However, commercial fertilizers are expensive and beyond the reach of the farmers. An alternative then is through the use of indigenous materials that are readily and economically available.

Cordillera farmers greatly use family labor in non-cash activities. To some extent, they use paid labor particularly in land preparation, planting and harvesting. In many cases, families produce cash crops not because it is profitable but because there are no cash generating activities. Both men and women participate in rice and vegetable production but women do most of the farm works. During slack period, men temporarily migrate to other places to look for work to augment income (CECAP and Philrice, 2000).

Sharma (2007) cited various environmental problems that can arise from the use of commercial chemicals. These are depletion of nutrients from the soil, pollution of ground water from pesticides used and presence of heavy metals and the increase in pathogens.



Cultural Practices

Land preparation. According to Mabbayad *et. al.* (1983) as cited by Liwaliw (2002) land preparation involves one plowing rotation and two to three times harrowing. The duration of land preparation depends on the number of weeds and plant stables on the field. Relatively clean fields can be prepared for 20 days at least to allow the organic materials plowed under to decompose before transplanting.

Transplanting. Philrice (2002) as cited by Waitan (2003) mentioned that the highest productivity is reported under the transplanting method, although it is labor intensive. Yields of transplanted and direct seeded rice are comparable but the former requires lower seeding rate (40 kg/ha. vs. 80 kg/ha) and less pesticides and herbicides use. The rows in transplanting rice facilitates the removal of weeds and application of fertilizer and other field operations.

Aowat (1995) as cited by Banao (2005) stated that the distance and space of rice seedlings is important considering the numerous number of rice varieties available to farmers. It is a fact that some rice varieties require more seedlings compared to the traditional varieties.

Magbayad as cited by Liwaliw (2002) said they noted that transplanting rice is done as long as water is available. Plant population and distance of planting vary depending on the experience of the farmers and prevailing environmental conditions in the locality.

Sharma (2007) further stated that choice of variety and seeding rate depends on the condition of the farm and the locality. Drought tolerant varieties maybe planted in drought prone areas. On saline soils, salt tolerant varieties maybe needed. In cooler areas,



such as on north-facing slopes, seeding dates may be delayed and seeding rates may be increased to maximize yield potential and minimize the potential for crop failure.

Pest management. Sharma (2007) cited that pest associated with agricultural production include weeds, insect, and diseases. Farmers now a days are using chemicals to control the growth of weeds in their farm not knowing that they have adverse effects on the quality of water supply, both the ground water and surface water. Montenosos (Undated) explained to participants in a workshop about weeds control that weed populations vary in response to a number of factors and that understanding the dynamics of weeds is critical to developing production system that reduce the amount of herbicide applied to the soil of crop. Weeds are spatially variable across fields because of organic material of the soil, texture, landscape position, and the interaction of these factors with crop management, crop cultivars, tillage, planting density, cultivation, and herbicide application methods. This is a complex set of interactions that exist within all fields.

Basic information technologies can help determine where diseases and weeds infestations occur or are most likely to occur. Farmers may then make decisions regarding site-specific treatment that can save money and reduce the risk of water contamination from a widespread application of pesticides.

Harvesting. Comafay (2005) stated that the “ani-ani” is a hand-held harvesting knife for cutting rice panicles when farmers in Indonesia commonly planted traditional varieties. The ani-ani was predominantly used to prevent grain from falling off the panicles. When farmers started to plant different rice types and varieties, they found that the ani-ani was no longer efficient and switched to using serrated sickles.



Chapman and Carter as cited by Comafay (2005) mentioned that the right time for harvesting is when grains attained a moisture content of 30 to 40 percent. This would result to increase in grain yield on a dry basis to as much as 30 percent. On the other hand, PCCARD (1977) noted that the time of harvesting rice is very important. Delaying that harvesting time of rice results in lower losses, higher grain yield, higher germinating percentage of the whole rice after milling.



METHODOLOGY

Locale and Time of the Study

The study was conducted in Banaue, Ifugao (Figures 1 and 2) particularly in Barangay Poitan. It is 45 minutes walk to the highway and 10 minutes ride to Poblacion. It lies 348 kilometers north of Manila and about 333 kilometers from Baguio City. The residents of Barangay Poitan are engaged in rice farming and wood carving.

The study was conducted from December 2009 to January 2010.

Respondents of the Study

The respondents of the study were the farmers who are directly managing/cultivating their own field within the study area. Fifty respondents were randomly considered from the rice farmer population of Barangay Poitan.

Research Instrument

A personal interview and survey questionnaire were used to collect the data and other relevant information. The interview was supplemented with key informant to get more information and clarify some of the answers.

Data Gathered

The data gathered were the socio-economic profile of the respondents, the indigenous practices of the farmers, common problems encountered by the farmers and the common varieties they are planting.







Data Analysis

The data gathered were tabulated and analyzed using statistical tools such as frequency and percentage distributions.



RESULTS AND DISCUSSION

General Information About the Respondents

Table 1 presents the age, sex, civil status, educational attainment, number of children, number of years in farming, religion, other sources of income, land tenure, and number of rice paddies cultivating.

Age. The ages of the respondents ranges from 20 years old to 70 years old. The same number of respondents (22%) were found to be 31 to 40 years old, 41 to 50 years old and 61 to 70 years old. Only 6% were within 20 to 30 years old while 28% 51 to 60 years old. The finding shows that some of the farmers relatively old but are still farming. Some of the respondents said that going to the farm is already a habit that is why even at their old age they are still farming.

Sex. Among the respondents, 54% were females and 46% were males. Though the number of female respondents is greater than the number of male respondents, both were actively engaged in rice production.

Civil status. The findings show that 76% or more than half of the respondents were married, 12% were widowed and 12% were single.

Educational attainment. Results showed that 32% have not undergone formal education, 28% reached elementary, 22% high school and 18% college. This shows that most of the respondents were literate but considerably with low educational attainment. Moreover, some of the respondents who have not gone to school claimed that they have been taught how to read and write but through informal education.



Number of children. Regarding the number of children of the respondents, half of the respondents or 50% had 6 to 10 children, 38% had 1 to 5 children and 12% do not have a child because they are still single.

Number of years in farming. The data shows that 40% of the respondents were cultivating rice for 16 to 20 years. Twenty four percent each 10 years and below and 11 to 15 years of farming. The rest have been cultivating rice for more than 21 years. The data also implies that majority of the respondents were experienced in producing rice considering the number of years they had been farming.

Religion. With regards to the religion, most of respondents are Roman Catholics (70%), both the Evangelical and Pentecostal represented 14% and the rest were Pagans. This implies that most of the respondents are Christians.

Other sources of income. Aside from rice farming the respondents were also engaged in other activities where they derive additional income. Forty eight percent were engaged in wood carving, 28% weaving, 16% livestock production. The wood carvers recorded the highest involvement followed by the weavers (28%) while 16% were livestock raisers who were raising swine and other animals, government employees 14% and the rest have a sari-sari store.

Tenure. Results showed that most of the respondents (76%) own the rice fields they are farming while 24% were share tenants.

Number of paddies cultivated. Finding shows that more than half of the respondents (52%) were farming 11 to 15 rice paddies, 34% with 5 to 10 rice paddies and 14% with more than 15 rice paddies. This finding shows that majority of the farmers in Poitan are cultivating less than 15 rice paddies. However, it should be made clear that the



Table 1. General information about the respondents

PROFILE	FREQUENCY	PERCENTAGE
Age		
20 – 30	3	6
31 – 40	11	22
41 – 50	11	22
51 – 60	14	28
61 – 70	11	22
TOTAL	50	100
Sex		
Female	27	54
Male	23	46
TOTAL	50	100
Civil Status		
Single	6	12
Married	38	76
Widowed	6	12
TOTAL	50	100
Educational Attainment		
Elementary	14	28
High School	11	22
College	9	18
No Schooling	16	32
TOTAL	50	100

sizes of the rice paddies are not equal. Thus, the number of rice paddies do not necessarily relate to the total farm size that each farmer cultivates and also their farm productivity.



Table 1. continued...

PROFILE	FREQUENCY	PERCENTAGE
Number of Children		
1 – 5	19	38
6 – 10	25	50
No children	6	12
TOTAL	50	100
Number of Years in Farming		
10 years and below	12	24
11 – 15	12	24
16 – 20	20	40
21 and above	6	12
TOTAL	50	100
Religion		
Roman Catholic	35	70
Evangelical	8	16
Pentecostal	7	14
Pagan	5	10
TOTAL	50	100
Other Sources of Income		
Wood carving	19	48
Weaving	14	28
Sari-sari store	6	12
Government employee	4	8
Livestock raising	7	14
TOTAL	50	100
Tenure Status		
Owner	38	76
Share tenant	12	24
TOTAL	50	100
Number of Paddies Cultivating		
5 – 10	15	30
11 – 15	26	52
16 and above	9	18
TOTAL	50	100



Indigenous Farm Practices on Field Preparation

Table 2 presents the indigenous practices in preparing the rice field. Results showed that all of the respondents have been practicing indigenous ways of preparing their rice fields. The first step is the “lamun” which is done about one month after harvest. The remaining rice straws, 30-45 cm, are pulled, twisted, bent and incorporated into the mud by trampling on it. This prevents the rice straws from rising up and hasten their decomposition. This practice is done by both men and women. Next is the “lobah” or “munlobah”, this is clearing of grasses along the stonewalls or slopes of the rice fields. After sometime, the decomposed rice straws and grasses will rise up from the mud. Once they are exposed to sunlight, they were turned upside down to hasten the decaying process. This activity is called “balangui”. The next step is the “balin.” This involves pushing down the rotten grass and rice straws that emerged from the mud. This is done four months after harvest, which is in time for seedbed preparation. A hump of mud is made to separate the seedbed from the surface of the field. This is called the “batngay”. The sixth step is the “hapna” or the preparation of the seedbed and the sowing. One or two days after preparing the seedbeds, the women sow the seeds by putting the whole panicle of palay on the mud maintaining a distance between two panicles. Some farmers soak the bundles of palay overnight in the field beside the seedbed before sowing. The last step is the “mamanong”, this is done by shutting off the leaks on the sidewalls of the fields by pressing the spot where the leak is with the use of either feet. If the leak is too big, deep and wide, the use of wooden pestle is needed to pound the soil to close it. This requires putting aside the top soil to see the extent of the leak. Using both hands or



Table 2. Indigenous practices on field preparation

PRACTICES	FREQUENCY*	PERCENTAGE
Lamun (trampling down the rice straw)	50	100
Lobah (wall cleaning)	50	100
Balangui (turning upside down the exposed rice straw)	50	100
Balin (2 nd weeding, treading & wet mulching)	50	100
Batngay (a hump of mud to enclose the seedbed)	50	100
Hapna (putting the seed on the seedbed)	50	100
Mamanong (putting more mud at the side of the dike to make bigger and stronger)	50	100
Other Activities	50	100
Ahe-topeng (repairing the collapsed stone wall)	50	100
Ahi-budubud (clearing the rice field covered with soil due to land slide)	50	100
Inago/Acho (making mulch mounds in the flooded rice paddies)	13	26

* Multiple response

shovel, more mud is placed on the sides and topside of the dike. Other filed preparation practices frequently used every cropping are the “ahe-topeng” and “ahi-budubud”. Ahe-topeng is done when the stone walls collapse and need repair. Ahi-budubud is done when a mountain side slides and cover the rice fields. The farmers have to clear the rice field by removing the soil with the use of water.



Some respondents claimed they have been practicing the “inago/acho” which is done by making mulch mounds in the flooded rice paddies where vegetables are planted. This is also helps in decomposing the rice stalks and other grasses to be used as fertilizer.

It can be inferred from the result that all rice farmers in Poitan, Banaue are practicing the indigenous way of field preparation.

Method of Land Preparation

Regarding the land preparation, more than half of the respondents (54%) prepare their fields manually. Land preparation is usually done by the men with the use of a shovel locally known as “gaud” which is manufactured in the locality by a blacksmith. Only 6% use micro tiller as their method of preparing their rice fields and the 40% use both manual labor and micro tiller. Those who use purely the micro tiller owned the machine while those who used a combination of manual both labor and micro tiller do not own the machine but hired it from the farmers’ organization. This finding shows that majority of the farmers are still practicing the indigenous way of land preparation. This maybe due to the availability of men-labor in the locality which could be hired or this could be done by bayanihan or “ub-ubbo.” The activities performed during land preparation are the “mamanong”, “ahe-topeng” (if necessary), “ahi-budubod” (if necessary), and soil tilling, if the rice field is dried up during the previous cropping period. This is the activity where the micro tiller could be used as a substitute for manual labor. Farmers in other areas of Banaue are using the carabao for tilling and harrowing however, it is surprising that none of the respondents in the study area used carabao.



Table 3. Practices in land preparation, weed control, and fertilizer application

PRACTICES	FREQUENCY	PERCENTAGE
Land Preparation		
Manual method	27	54
Micro tiller	3	6
Both	20	40
TOTAL	50	100

Practices Performed During Sowing of Seeds

Table 4 shows the practices adopted by the respondents in sowing the seeds. This includes seeding, the beliefs followed, and the rituals performed during the sowing.

Method of seeding. All of the respondents used the wet bed method in sowing the seeds. This activity is locally known as “hapna”(the whole rice panicle are sown side by side). This is done by putting a “batngay” (the process of separating seedbed from the surface of the field. Before putting the seeds, the farmers remove first the shells that would eat the seedlings and other dirt that would impede the growth of the seedlings. After the seeds are placed on the seedbed, the “batngay” is removed to allow the water to cover the seeds so that they will not be eaten by rodents and birds.

Belief practices during sowing of seeds. During sowing, 74% of the respondents stated that they do not do household chores the day after sowing of seeds. This is done to prevent pests in the rice fields. Four percent did not allow visitors to their rice fields during sowing of seeds and 16% followed both beliefs. There were 3 respondents or 6%



Table 4. Indigenous practices on sowing of seeds

PRACTICES	FREQUENCY	PERCENTAGE
Method of seeding		
Wet bed method	50	100
Beliefs followed		
Not allowed to do household chores	37	74
Do not allow visitors in the rice field	2	4
Follow both beliefs	8	16
No belief followed	3	6
Perform the “impanal” ritual (offering rice wine and chicken to Kabunian)	33	66

who do not follow any belief. This finding implies that majority of the farmers still follow these traditional beliefs that were handed down to them.

“Impanal” ritual. This ritual is done by offering rice wine and chicken to “Kabunian” (God of rice) to ask for Kabunian’s blessing for their crop so that calamities and pest will not destroy them. Results showed that 66% of the respondents performed the impanal ritual while 34% did not. This implies that majority of the farmers in Poitan still stick to the traditions/culture despite the spread of Christian teachings in the place.

Transplanting Practices

Tables 5 shows the transplanting practices of the respondents as to month of transplanting, number of seedlings planted, and the distance of seedlings followed.

Months of transplanting. Based on the table, results showed that 58% of the respondents transplanted during the months of January to February while the rest



Table 5. Transplanting practices of the respondents

PRACTICES	FREQUENCY	PERCENTAGE
Month of transplanting		
January to February	29	58
March to April	21	42
TOTAL	50	100
Number of seedlings planted		
2 to 3	18	36
3 to 4	17	34
4 to 5	15	30
TOTAL	50	100
Distance of seedlings (cm)		
20 x 20	21	42
15 x 15	17	34
15 x 20	12	24
TOTAL	50	100
Beliefs*		
Not eating hot breakfast	28	56
Not to plant during full moon	23	46
Ritual*		
Puchung	41	82
Loh-wang	9	18

* Multiple response

transplanted from March to April. This implies that farmers do not plant at the same time. One probable reason could be the availability of labor for transplanting. If they all plant at the same time there would be very few laborers to be hired and the farmers would be competing for it. Spreading the transplanting season would enable them help each other.



Number of seedling planted. The farmer do not actually count the number of seedlings they plant. Their responses were based on their estimate or perception. The number of seedlings planted depends on the size of seedlings. If the seedlings are big, 2 or 3 seedlings are planted but if they are small more seedlings are planted because the rate of survival of smaller seedlings are lower than the bigger ones, according to the respondents. The 2 to 3 seedlings has the highest percentage (36%) next is the 3 to 4 seedlings (34%) and the rest are 4 to 5 seedlings.

Distance of seedlings. Regarding the distance of planting, 42% of the respondents sowed at the distance of 20cm x 20 cm, 34% followed a distance of 15cm x 15cm while the rest used a distance of 15cm x 20cm. Like the number of seedlings, the distances are only estimates of the respondents.

Beliefs. There were some farmers who still hold on to the superstitious beliefs of their parents and grandparents. Fifty six percent of the respondents said they do not eat hot food for breakfast when they are going to transplant while 46% said they do not plant during full moon.

Rituals. Eighty two percent of the respondents said they use the “puchung” at the “panopnaan” or seedbed. A “puchung” is a knotted runo placed at the seedbed when there are seedlings still left to ward off people or spirits from getting the seedlings. The other ritual performed during planting is the “loh-wang” (ritual performed at the rice granary of the chieftain) with only 18%. The result shows that majority of the farmers do not perform the “loh-wang” ritual.



Weed Control and Fertilizer Application

Control of weeds. As to the time of weeding 46% of the respondents do weeding any time as long as there are weeds. Thirty percent said they do regular weeding while 24% said they do weeding before and after planting. On the method of weeding, 70% of the farmers use manual labor to pull the weeds, 6% control the weeds by burning it and 24% practiced both manual pulling and burning. They claimed that they burn the weeds when these are already too thick. None of them use chemicals to control the weeds.

Table 6. Weed control and fertilizer application practices

PARTICULARS	FREQUENCY	PERCENTAGE
Weed Control		
Weeding regularly	15	30
Before and after planting	12	24
Any time	23	46
TOTAL	50	100
Method of Weeding		
Manual pulling	35	70
Burning	3	6
Both	12	24
TOTAL	50	100
Fertilizer Used		
Rice hull	24	48
Sunflower	11	22
Animal dung	9	18
Decayed plants	6	12
TOTAL	50	100



Removing of weeds is generally delegated to the women. The farm implement used for removing weeds is the trowel locally known as “daluh.” This implement is also locally manufactured like the “gaud” (shovel).

Fertilizers used. With regards to the fertilizers they used, almost half of the respondents used rice hulls, 22% sunflower, 18% chicken dung and 12% used decayed weeds and vegetables. Some of the farmers stated that sometimes they use 2 or more fertilizers or they combine the fast decaying and slow decaying fertilizers. None of the farmers use commercial fertilizer. This shows that even farmers who did not learn about soil fertility know how to make their field fertile or nourish their plants.

These practices were either learned through experiences or were handed down to them by their parents.

Harvesting Practices

Table 7 presents the practices during harvest which includes the rituals and the implements used during harvest.

Practices. Seed selection is one of the important practices maintained by the farmers in the study area. The result shows that all the respondents gather first the “binayngo” or selected seeds before they harvest. There are women who specialized in gathering the binayngo who do the gathering. These are bundled twice the size of the ordinary palay so that the farmer would recognize which ones are for seed purpose. All the respondents butcher animals during harvest. In the old tradition, the “mumbaki” or pagan priest performs the ritual before they butcher the animals but at presents, according to the respondents, this practice is no longer followed. Serving wine during harvest is still practiced by 58%. Fifteen percent mentioned that they practice the “badchang”



Table 7. Harvesting practices of the respondents

PARTICULARS	FREQUENCY*	PERCENTAGE
Practices		
“Binayngo” first (selected seeds)	50	100
Butchering of animals	50	100
Serving of rice wine	29	58
“Badchang” (practice in transferring the		
rice field to the heir)	15	30
Rituals		
“Tungo” (rest day)	29	58
“Urpi” (thanksgiving ritual)	18	36
Tools/Implements		
“Botawer” (a carrying pole)	50	100
“ Gamulang” (a reaping tool)	50	100

* Multiple response

(bayanihan during harvest). This is done only when the parents are transferring the rice field to the newly wed couple. If it is the man who is going to inherit the property then the wife’s parents should buy a pig and invite their neighbors to join them in harvesting the ricefield of the man. This shows that the parents of the man is now transferring the ricefield to the couple.

Rituals. The ritual performed during harvest season is the “tungo”. The “tungo” is a rest day for the farmers in the community. This is announced by the “muntonah” (chieftain) at the end of the harvest season. This also marks the end of the harvest season



so the farmers could rest for a day or two. Another ritual performed is the “urpi” (a thanksgiving ritual) as claimed by 36% of the respondents.

Tools or implements used. There were two common implements used by the farmers during harvest. All the respondents claimed that they still use these implements. The first is the “botawer”. This is a piece of wood used to carry the harvested palay from the rice fields to the granary or wherever the rice is to be stored. The second implement is the “gamulang” which is used by the women in reaping the palay.

Post Harvest Practices

Table 8 shows the post harvest practices of the respondents in drying and storing their palay. It also includes the rituals performed.

Drying. The farmers dry their palay in an open space during sunny days. The palay is turned upside down with the panicles radically bowing outwards to dry the inner panicles. Drying of palay is done thrice or more depending on the weather.

Farmers who have no rice for consumption roast the palay for about half an hour then pound it.

Storing. If the farmer has no granary, the rice is stored in the “palan” or roof top portion of the native house. Eighty two percent of the respondents store their palay in the “palan” while the 18% store their palay in the “alang” or rice granary.

Beliefs. Seventy six percent of the respondents said the elders are responsible in storing the palay either in the “palan” (roof top portion of the house) or in the “alang.” (rice granary). Another belief followed by 44% of the respondents is that only the designated person is allowed to get the palay from the “alang” or “palan” for the first



Table 8. Post harvest practices of the respondents

PARTICULARS	FREQUENCY*	PERCENTAGE
Storage of palay		
Store at the “palan” (rooftop portion)	41	82
Store at the “alang” (rice granary)	9	18
TOTAL	50	100
Beliefs*		
Only the elder stores the palay	38	76
Only the designated person should get the palay from the storage	9	18
Rituals*		
Inyapuy (offering of 2 big chicken to the Rice God)	27	54
Lawit (butchering chicken for the family to partake)	42	84

*Multiple response

time. However, any member of the family could get the palay for the succeeding schedule.

Rituals. Among the rituals performed 54% practiced the “inyapuy” wherein, 2 big chickens are butchered for offering to the rice god before the family starts to consume the stored palay. Majority (84%) performed the “lawit” (butchering of chickens) after storing the palay in the “palan” or in the granary. In the traditional way, this was done by butchering of animals by the native priest for the family to partake. However, this practice is now modified as influenced by religion. The native priest no longer offer



animal to the anitos but this is no longer offered by the native priest but this is done now by a religious group as a thanksgiving.

Rice Varieties Cultivated

Table 9 shows the varieties of rice that the respondents have cultivated. Except for C-4, native rice varieties have been cultivated by the farmers. Farmers acquired the seeds from previous cropping. During harvest the women select seeds called “binayngoh” for planting materials. These are bundled big so that they would not be mixed with the ordinary palay.

The result shows that Malagkit had the highest percentage (32%) followed by “Minayyaw” (20%), and “Palawan” variety (16%). The “Minangan”, C-4 and “Oklan” with 14%, 10% and 8%, respectively. The respondents stated that they plant 2 or more varieties of rice.

Table 9. Rice varieties cultivated by the respondents

RICE VARIETIES	FREQUENCY	PERCENTAGE
Malagkit	16	32
Minayyaw	10	20
Palawan	8	16
Minangan	7	14
C-4	5	10
Oklan	4	8



Problems and Solutions

Table 10 shows the problems encountered and the solutions to the problems of the farmers during farming.

Problems encountered. Results showed that weeds is considerably the most common problem of the farmers (42%) followed by insect pest and animals (30%), irrigation (14%), labor (8%) and the rest are the problems brought about by calamities. Some respondents stated that though weeds and pests are their common problem in the farm chemicals were not applied in solving these problems because of the risks.

Table 10. Problems and solution of the farmers during farming

PARTICULARS	FREQUENCY	PERCENTAGE
Problems Encountered		
Weeds	21	42
Calamities	3	6
Pests	15	30
Irrigation	7	14
Labor constraints	4	8
TOTAL	50	100
Solutions to the problems		
Regular weeding	18	36
Burning	8	16
Building traps	10	20
Stay in the farm	14	28
TOTAL	50	100



Solutions. Regarding their solutions to the problems they encounter during farming, results showed that the respondents still prefer regular weeding (36%) and burning (16%) in controlling weeds instead of using chemicals. On the other hand, they also prefer using traps in controlling the pests rather than chemicals. Others prefer to stay on their farm (28%) and watch their rice fields.



SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was conducted in Poitan, Banaue, Ifugao to determine the profile of the rice farmers, identify their indigenous farming practices and identify the common problems met by the farmers related to their farm production. Fifty farmers were taken as respondents of the study.

The results of the study showed that farmers were 30 to 70 years old. Female farmers were a little bit more than the male, majority were married and had formal education. Most of them had farming experiences of 16 – 20 years and majority were Roman Catholics, owned the land they cultivated and cultivating 11 – 15 rice paddies. Their other sources of income were derived from wood carving weaving, livestock raising, business, and employment in the government.

The indigenous practices of the respondents are the “lamun”, “lobah”, “balangui”, “balin”, “batngay”, “hapna”, “mamanong”, “ahe-topeng”, “ahi-budubud”, and “inago/acho.” Majority used manual labor for land preparation while others made use of a micro-tiller which they rented from their organization. For seed sowing, they followed the wet bed method. Some beliefs followed by some farmers during seed sowing were: not doing household chores after sowing, and do not allow visitors to go to the rice field the day after they sowed the seeds. The ritual performed during seed sowing is the “impanal.” Transplanting of seedlings was done from January to April and the number of seedlings planted depended on the sizes of the seedlings. When the seedlings are smaller in size, they plant more seedlings. The distances between seedlings are just calculated by the farmers. Majority of the farmers do not eat hot breakfast when they go



to plant and some do not plant during the full moon. For other rituals, the farmers practiced the “puchung” at the “panopnaan”(seedbed) and only a few practice the “loh-wang”.

To control the weeds, all the farmers used the mechanical method. Some burned the weeds while in some they burn the weeds but otherwise they were use as fertilizer. Farmers also used rice hulls, sunflower, and chicken dung as fertilizer. Commercial fertilizer was not applied in their ricefields. During harvest, the farmers do the seed selection before the palay are harvested. The selected seeds are called “binayngo.” The women are responsible in harvesting with the use of “gamulang” (reaping tool) while the men carry the harvested palay with the use of the “botawer.” Animals are butchered for a good harvest. The rituals performed during harvest are the “tungo” (rest day) and the “urpi.” The harvested palay are stored in the rice granay called “alang” in the case of the “muntonah” (chieftain) and the kadangyan (rich) or in the “palan” as done by other farmers. After storing the palay they perform the “lawit” and before they start to get the palay from the storage they perform the “inyapuy.” The rice varieties cultivated by the farmers are all native rice varieties except for C-4.

The farmers encountered problems particularly on weed and pest control, destruction caused by calamities and lack of irrigation. The solutions they adopted to solve their problems were regular weeding and burning of weeds in the case of weed control and for pest control, they build traps to catch the rodents that eat the palay. Others stay in their farms to watch the irrigation during the dry season and drive the birds when the palay are ripened.



Conclusions

Based on the findings of the study the following conclusions were made:

1. Majority of the farmers had reached only the elementary and high level of formal education because they had started farming at an early age. The farmers are predominantly Roman Catholics.

2. Majority of the farmers are still practicing the indigenous way of farming. They are still using the simple farm implements like the “gaud” and the “daluh.” Likewise, the farmers do not use any chemical fertilizer and for weed and pest controls.

3. Although some farmers are not practicing all the rituals on rice production there are still farmers who performed all of the rituals. They still follow the “muntonah” (chieftain) in terms of rituals to be performed in rice production. Butchering of the animals to be served during harvest are no longer done by the native priest and the farmers no longer offer the animals to the “Kabunian.”

4. The rice varieties cultivated by the farmers are the native varieties, however, some farmers adopt the C-4 variety which is adopted to the climatic condition of the place.

5. The farmers themselves find remedies to their own problems.

Recommendations

The recommendations made are as follows:

1. The farmers organization should acquire more micro-tillers to help save time and labor. The time saved could be used to earn other income for the family.

2. The farmers should try new rice varieties that suit the climatic condition of the place so that the palay supply could last for the next cropping. On the other hand, they



should also continue to cultivate the native varieties to preserve them. Besides, the native varieties do not require the use of synthetic fertilizer and chemical pesticides.

3. The farmers should continue practicing the “inago” wherein vegetables, onions, and other herbs and spices are planted. The “inago” does not only increase income but also provides organic matter to the soil.

4. Since the farmers are not using chemical fertilizer and pesticides, they should practice rice-fish culture and integrating young ducks right after transplanting to help in controlling weeds, insects and snail. At the same time it is also an additional source of income.



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APPENDIX A

Letter to the Respondents

Benguet State University
College of Agriculture
Department of Extension Education
La Trinidad Benguet

Janaury 25, 2010

Dear Respondents,

I am a student of Benguet State University, taking up Bachelor of Science in Agriculture major in Extension Education. I am conducting a research about the Indigenous Practices of Rice Farmers in Banaue, Ifugao.

In this regard, I am asking your help by answering the questionnaires.

Thank you and more power. God Bless.

Respectfully yours,

FELISA C. TALANGO
Student Researcher



APPENDIX B

Survey Questionnaire

I. SOCIO-ECONOMIC PROFILE

1. Name (Optional) _____

2. Age _____ 3. Sex: () Male () Female 4. Religion _____

5. Educational Attainment

_____ Elementary _____ Highschool

_____ College _____ Vocational

6. Dialect spoken _____

7. Number of children _____

8. Tenure

_____ Owner _____ Share tenant

_____ Lease _____ Others (specify)

9. Other sources of income

_____ wood carving _____ daily wages

_____ weaving _____ business

_____ others (specify) _____

10. Area cultivated (by paddies)

_____ 5-10 _____ 10-15 _____ above 15

11. Number of years in farming

_____ 5-10 years _____ 15-20 years

_____ 10-15 years _____ more than 20 years

12. Organizational membership



___ cooperative ___ association
 ___ others (specify) _____

II. INDIGENOUS PRACTICES

A. LAND PREPARATION

1. Preparation period

___ Lamun
 ___ Lobah/mumlohab
 ___ Balangui
 ___ Balin
 ___ Batngay
 ___ Hapna
 ___ Mamanong
 ___ Practice Inago/Acho

2. Land preparation

___ manual method ___ plowing ___ using of other machine

3. How do you control weeds?

___ hand weeding ___ burning ___ others (specify) _____

4. Fertilizer being used

___ sunflower ___ rice hulls ___ animal dung
 ___ others (specify) _____

B. SOWING

1. Varieties of rice planted (you can check more than one)

___ Malagkit ___ C-4



Palawan Minangan
 Minayyaw Oklan
 Others (specify) _____

2. Method of seeding

direct seeding wet seeding

3. During sowing the one who sow the seeds are:

not allowed to do household chores to prevent pest in rice fields

visitors are not allowed to enter

4. Perform Impanal ritual yes no

4. Other practices not mentioned please specify _____

C. TRANSPLANTING

1. Months of planting _____

2. Number of seedlings being planted

2 to 3 3 to 4 4 to 5 Others

3. Distance of planting

20 x 20 cm 15 x 15 cm 15 x 20 cm

others (specify) _____

4. Do you practice the following?

a. Loh-wang ritual yes no

b. The “muntonah” will plant first before others yes no

c. “Ubbo” rather than paying them yes yes

d. Not eating hot breakfast when going to plant rice to avoid the leech

yes no



- e. Putting “puchung” at the “panopnaan” ___ yes ___ no
- f. Don’t plant during full moon ___ yes ___ no
- g. Urpi – butcher chicken as a thanksgiving after planting ___ yes ___ no

5. Who provide the lunch when you have companions to plant?

___ the owner brings the food ___ bring your own packed lunch

D. HARVESTING

1. What do you use for harvesting palay?

___ use of knives (gamulang) ___ use of serrated sickles

___ others (specify _____)

2. Do you still practice the following? Please check those that your are practicing

___ Binayngo first

___ butchering animals for viand during harvest

___ ricewine is served during harvest

___ use of “botawer”

___ tungo/ hu-ap

___ noise is prohibited during tungo

___ celebrate the “urpi”

___ “badchang”

3. Months of harvesting ___

E. STORAGE

___ Inyapuy ritual

___ the palay are stored at the “pala” of the native house

___ the eldest should be the one to store the palay



___ no other person allowed to get the palay except the designated wife or husband

___ store the palay in the “alang”

___ lawit (butcher chicken for the family to partake)

F. ACTIVITIES

1. Ahi-topeng

___ every how many years?

2. Ahi-banong

___ every how many months

3. Ahi-budubud

4. Weeding

___ weeding plant regularly

___ done after a month after planting

___ done any time

___ others (specify) _____

III. PROBLEMS ENCOUNTERED

A. Check what is applicable to you

___ lack of unity among farmers

___ weeds on grass

___ calamities like typhoon, earthquakes, landslides

___ abundance of pest

___ lack of irrigation

___ animals such as pigs and chicken

___ labor constraints causing postponed transplanting



_____ others (specify) _____

B. solutions to the problems

_____ spraying weedicides/insecticides

_____ building strong foundation of rice paddies (topeng)

_____ construction of fences

_____ staying on the farm to drive away the birds during ripening of rice panicles

_____ others (specify) _____

